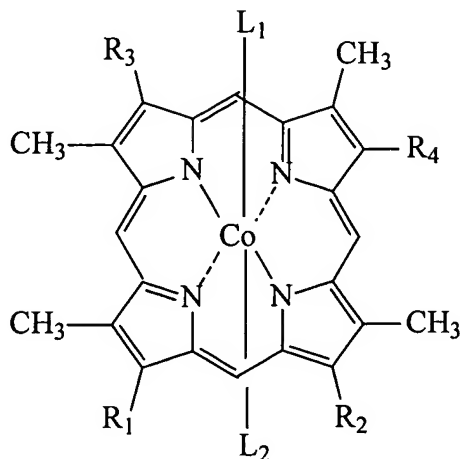


CLAIMS

What is Claimed:

1. A cobalt-porphyrin complex having the structure:



or a salt thereof, wherein:

R_1 and R_2 are the same or different and independently $-(CH_2)_n-A-R_5$, wherein A is $-C(=O)O-$, $-OC(=O)-$, $-C(=O)N(R)-$, $-N(R)C(=O)-$, $-C(=O)-$, $-N(R)-$, $-O-$ or $-S-$, and R is hydrogen, alkyl, substituted alkyl, arylalkyl, or substituted arylalkyl, and n is 2 or 3;

R_3 and R_4 are the same or different and independently $-CH=CH_2$ or $-CH_2CH_3$;

R_5 is, at each occurrence, the same or different and independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, arylalkyl or substituted arylalkyl; and

L_1 and L_2 are optional ligands;

and with the proviso that the cobalt-porphyrin complex of structure (I) has no more than 5% of the redox activity of cobalt mesoporphyrin.

2. The complex of claim 1 wherein A is $-C(=O)O-$.

3. The complex of claim 1 wherein A is $-OC(=O)-$.

4. The complex of claim 1 wherein A is -C(=O)N(R)- .
5. The complex of claim 1 wherein A is -N(R)C(=O)- .
6. The complex of claim 1 wherein A is -C(=O)- .
7. The complex of claim 1 wherein A is -N(R)- .
8. The complex of claim 1 wherein A is -O- .
9. The complex of claim 1 wherein A is -S- .
10. The complex of claim 1 wherein n is 2.
11. The complex of claim 1 wherein n is 3.
12. The complex of claim 1 wherein R is hydrogen.
13. The complex of claim 1 wherein R is lower alkyl.
14. The complex of claim 1 wherein R_5 is hydrogen.
15. The complex of claim 1 wherein R_5 is alkyl.
16. The complex of claim 15 wherein R_5 is lower alkyl.
17. The complex of claim 1 wherein R_5 is substituted alkyl.
18. The complex of claim 1 wherein R_5 is aryl or substituted aryl.

19. The complex of claim 1 wherein R₅ is arylalkyl or substituted arylalkyl.

20. The complex of claim 19 wherein arylalkyl is benzyl.

21. The complex of claim 1 wherein R_3 and R_4 are the same.

22. The complex of claim 20 wherein R₃ and R₄ are -CH=CH₂.

23. The complex of claim 20 wherein R₃ and R₄ are -CH₂CH₃.

24. The complex of claim 1 wherein at least one of L₁ or L₂ is present.

25. The complex of claim 1 wherein both L₁ and L₂ are present.

26. The complex of claim 25 wherein L₁ and L₂ are glycinate.

27. The complex of claim 25 wherein L₁ and L₂ are imidazole.

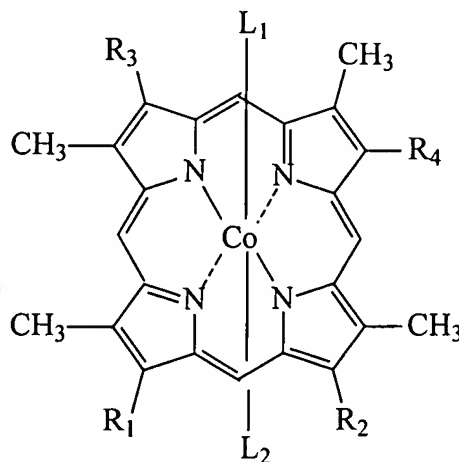
28. The complex of claim 25 wherein L_1 and L_2 are halogen.

29. The complex of claim 25 wherein L₁ and L₂ are a mono- or di-substituted amino.

30. The complex of claim 25 where L_1 and L_2 are a substituted or unsubstituted heterocycle.

31. A composition comprising a compound of claim 1 in combination with a pharmaceutically acceptable carrier.

32. A method for treating obesity, comprising administering an effective amount of a composition comprising a cobalt-porphyrin complex and a pharmaceutically acceptable carrier, wherein the cobalt-porphyrin complex has the structure:



or a salt thereof, wherein:

R_1 and R_2 are the same or different and independently $-(CH_2)_n-A-R_5$, wherein A is $-C(=O)O-$, $-OC(=O)-$, $-C(=O)N(R)-$, $-N(R)C(=O)-$, $-C(=O)-$, $-O-$ or $-S-$, and R is hydrogen, alkyl, substituted alkyl, arylalkyl, or substituted arylalkyl, and n is 2 or 3;

R_3 and R_4 are the same or different and independently $-CH=CH_2$ or $-CH_2CH_3$;

R_5 is, at each occurrence, the same or different and independently hydrogen, alkyl, substituted alkyl, aryl, substituted aryl, arylalkyl or substituted arylalkyl; and

L_1 and L_2 are optional ligands;

and with the proviso that the cobalt-porphyrin complex of structure (I) has no more than 50% of the redox activity of cobalt mesoporphyrin.

33. The method of claim 32 wherein the composition is administered by injection.

34. The complex of claim 32 wherein A is $-C(=O)O-$.

35. The complex of claim 32 wherein A is -OC(=O)- .
36. The complex of claim 32 wherein A is -C(=O)N(R)- .
37. The complex of claim 32 wherein A is -N(R)C(=O)- .
38. The complex of claim 32 wherein A is -C(=O)- .
39. The complex of claim 32 wherein A is -N(R)- .
40. The complex of claim 32 wherein A is -O- .
41. The complex of claim 32 wherein A is -S- .
42. The complex of claim 32 wherein n is 2.
43. The complex of claim 32 wherein n is 3.
44. The complex of claim 32 wherein R is hydrogen.
45. The complex of claim 32 wherein R is lower alkyl.
46. The complex of claim 32 wherein R_5 is hydrogen.
47. The complex of claim 32 wherein R_5 is alkyl.
48. The complex of claim 47 wherein R_5 is lower alkyl.

49. The complex of claim 32 wherein R_5 is substituted alkyl.
50. The complex of claim 32 wherein R_5 is aryl or substituted aryl.
51. The complex of claim 50 wherein R_5 is arylalkyl or substituted arylalkyl.
52. The complex of claim 51 wherein arylalkyl is benzyl.
53. The complex of claim 32 wherein R_3 and R_4 are the same.
54. The complex of claim 53 wherein R_3 and R_4 are $-\text{CH}=\text{CH}_2$.
55. The complex of claim 53 wherein R_3 and R_4 are $-\text{CH}_2\text{CH}_3$.
56. The complex of claim 32 wherein one of L_1 or L_2 is present.
57. The complex of claim 32 wherein both L_1 and L_2 are present.
58. The complex of claim 57 wherein L_1 and L_2 are glycinate.
59. The complex of claim 57 wherein L_1 and L_2 are imidazole.
60. The complex of claim 57 wherein L_1 and L_2 are halogen.
61. The complex of claim 57 wherein L_1 and L_2 are a mono- or di-substituted amino.
62. The complex of claim 57 wherein L_1 and L_2 are a substituted or unsubstituted heterocycle.